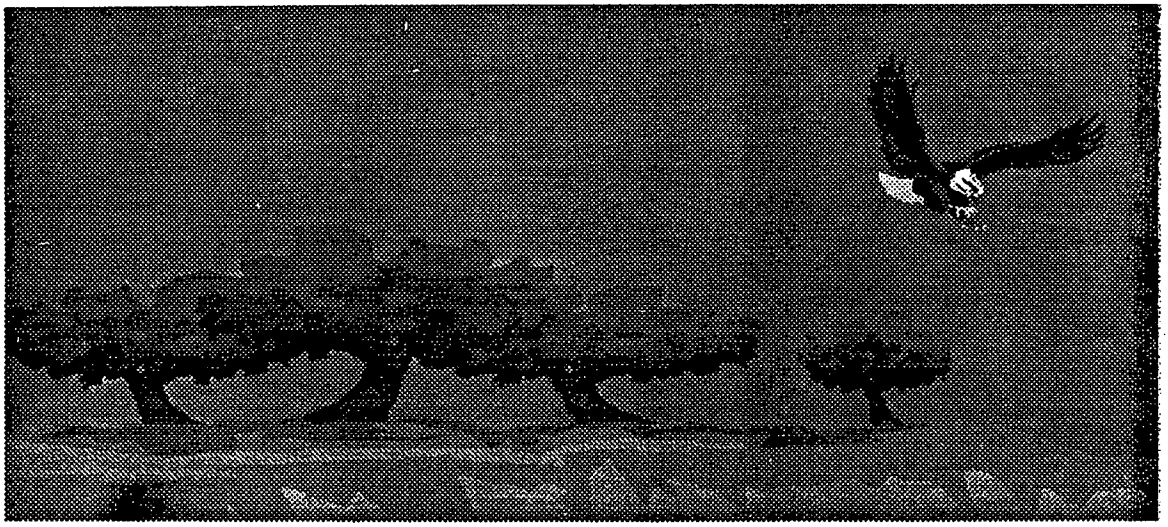
ENVIRONMENTAL RESTORATION PROGRAM

Monthly Report For January 1992



February 20, 1992

EG&G ROCKY FLATS

U.S. DEPARTMENT OF ENERGY
ROCKY FLATS PLANT

ENVIRONMENTAL RESTORATION PROGRAM

MONTHLY REPORT FOR

JANUARY 1992

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1.0 INTRODUCTION

This Monthly Status Report presents the current status and technical achievements of the Rocky Flats Environmental Restoration Program for January 1992. This Program implements the Interagency Agreement (IAG) between the U.S. Department of Energy, the U.S. Environmental Protection Agency, and the State of Colorado to investigate, assess, and remediate, where necessary, contaminated areas at or adjacent to DOE's Rocky Flats Plant in Golden, Colorado. This agreement was signed on January 22, 1991. The work is being performed for DOE by EG&G Rocky Flats, Inc.

Section 2.0 of this report, the Executive Summary, highlights significant achievements and summarizes the milestones completed during January. It also presents any major unresolved issues of the program. Technical progress, schedule status, and milestone status for each Operable Unit as well as other program activities are presented in Section 3.0. Work in Operable Units will be reported as it commences. Section 4.0 contains the schedules for routine environmental sampling as required by paragraph 210 of the Interagency Agreement. Section 5.0 contains a list which identifies the contractors and subcontractors performing work on the Program as required by paragraph 13 of the IAG.

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2.0 EXECUTIVE SUMMARY

2.1 SIGNIFICANT ACTIVITIES AND ACHIEVEMENTS FOR JANUARY 1992

Drilling and sampling activities have been completed on the OU 1 RI. Demobilization from the field was completed on January 31, 1992.

Installation of the ion exchange unit for the OU 1 IRA is in process. Pipe heat tracing and insulation is approximately 95 percent complete. Installation of electrical wiring between the ion exchange unit and the electrical panels within the 891 treatment building began. Work on the lightning protection system for Building 891 and the effluent tanks is approximately 90% complete. The west door apron on Building 891 was formed and poured on January 11, 1992.

Tank welding for the OU 1 IRA is complete on all tanks, and preparation of the tanks for external painting has started. Approval of the respiratory protection program for inside work is complete. The blasting materials used in the painting process have been approved, and the Air Pollution Emission Notice (APEN) approval from CDH was received on January 29, 1992.

Excavation and grouting of approximately 1100 feet of the OU 1 french drain is complete, and 1000 feet of backfill is complete. A new gate has been cut into the buffer zone fence near the east end of the french drain for better access to the east end of the project.

The OU 2 alluvial drilling program is on schedule with 55 monitoring wells and 16 boreholes completed to date. Pressure transducers were installed in various monitoring wells in OU 2 this month. This work is in preparation of the multi-aquifer pump test scheduled for March, 1992. Drilling operations started in the Americium Zone on January 7, 1992. Drilling started in the southeast trenches area and will proceed westward toward the 903 pad.

The OU 2 South Walnut Creek Granular Activated Carbon (GAC) treatment system collected, treated, and discharged 195,115 gallons of surface water during January 1992. The system continues 24-hour manned operation. Reconfiguration of the lead/polish GAC vessels was successfully completed on January 17, 1992. The spent GAC vessel was sampled on January 20, 1992 and sent to offsite laboratories for lab analysis for Toxic Characteristic Leaching Properties (TCLPs).

Progress toward completion of the installation of the radionuclide removal system for the OU 2 Walnut Creek IRA is ongoing. The design has been completed and fabrication of the unit has been initiated to facilitate an expedited start planned to occur by the end of April, 1992.

A schedule was prepared in late 1991 for the OU 2 Woman Creek Subsurface Investigation IM/IRA that included eight weeks of DOE/HQ document review and approval time. After presenting the schedule to the regulatory agencies, EPA Region VIII rejected the eight week approval period as being excessive. As a result, a dispute resolution has been invoked by DOE and has been elevated to the second level of negotiation.

The revised Draft Proposed OU 2 Subsurface IM/IRA/EA and Decision Document was transmitted to DOE/HQ on January 31, 1992 for approval prior to EPA and CDH submittal scheduled for March 2, 1992.

Conditional approval was received from EPA on the Final Phase I OU 3 RFI/RI Work Plan. Activities are continuing in preparation for implementation of the OU 3 Work Plan during 1992.

Revision of the OU 4 Phase I RFI/RI Work Plan incorporating comments from CDH and EPA was completed and began internal review on January 31, 1992.

Preparation for the draft OU 8 RFI/RI Work Plan has begun. The draft OU 8 RFI/RI Work Plan is scheduled to be delivered to the regulatory agencies in May 1992.

Comments on the OU 9 draft final Phase I RFI/RI Work Plan from EPA and CDH were received. CDH has requested the document be revised and submitted to the regulatory agencies by February 10, 1992 or the conditional approval of the work plan would be negated. Because comments were received late and have not yet been resolved, it would not be possible to revise and deliver the document to the agencies by February 10, 1992. A meeting was conducted on January 24, 1992 among DOE, EPA, CDH, and EG&G regarding regulatory agency comment resolution for the Work Plan. The majority of the comments were resolved and the Work Plan is being revised accordingly. At the meeting it was requested that the Work Plan submittal date be extended to February 28, 1992. This extension was agreed to by EPA and CDH.

The Final Phase I RFI/RI Work Plan for OU 11 was submitted to the regulatory agencies on January 2, 1992. Comments on the Work Plan were received from EPA and CDH on January 31, 1992.

Modifications to the Responsiveness Summary (RS) for the Plan for the Prevention of Contaminant Dispersion (PPCD) are in progress. A revised submittal date of February 21, 1992 was agreed to by CDH for the Final PPCD and RS.

Public comments have been addressed in the Response to Comments document and the appropriate changes to the Discharge Limits for Radionuclides Work Plan were made. Submittal of the Responsiveness Summary and the Final Work Plan documents occurred on January 31, 1992, the IAG milestone date.

Plans were developed for preparing a "straw man" to present the elimination of environmental evaluations (EEs) from OUs that are completely, or mostly in the production area of the plant to the regulators at the next Risk Assessment Technical Working Group meeting. The elimination of EEs from areas that are mostly paved or under buildings will result in considerable cost savings without affecting our understanding of the ecological risks. The ecosystem strategy established last year will allow the production area to be simply considered as a source term for contaminants to be considered when EEs in the buffer zone are implemented. Inside the production area, no natural ecosystem exists to be evaluated.

A meeting was held on January 29, 1992 to develop plans for a program for a surface soil background study to provide information for IAG reports, geochemical characterization, and other environmental programs currently underway at RFP.

The draft Historical Release Report (HRR) was submitted to EPA and CDH on January 8, 1992, the IAG milestone date.

A meeting with the Natural Resource Damage Assessment Trustees was held on January 13, 1992. This meeting provided a forum for discussing issues pertinent to the responsibilities of each of the trustees. Also discussed were the data currently being collected and other data that may be useful in evaluating potential natural resources injuries.

DOE and EG&G staff attended the ER Program Priority System Guidance and Workshop meeting held on January 16-17, 1992, in Washington, D.C. The objectives of the meeting were to provide an overview of the system for new users, to present scoring instructions, and to provide guidance for the FY94 input for the system. The intent is to use the system as one of the tools used to generate the FY94 target funding level for the FY94-FY98 ADSs. On January 22, 1992, a presentation on the Priority System was made to the Rocky Flats Technical Review Group (TRG). Rocky Flats' draft FY94 scores will be reviewed with interested members of the TRG to solicit their comments prior to submittal of the FY94 scores.

2.2 PROBLEMS AND PROGRAMMATIC ISSUES

A schedule was prepared in late 1991 for the OU 2 Subsurface Investigation IM/IRA that included eight weeks of DOE/HQ document review and approval time. After presenting the schedule to the regulatory agencies, EPA Region VIII rejected the eight week approval period as being excessive. As a result, a dispute resolution has been invoked by DOE and has been elevated to the second level of negotiation.

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks will impact the scheduled start of the OU 4 RFI/RI field activities in January 1992. The public comment period for the OU 4 Solar Evaporation Ponds IM/IRA Decision document was closed on November 9, 1991. Completion of the first draft of the Final IM/IRA Plan, including revisions, is scheduled for early January 1992. At this time the impact, if any, on the IAG milestone for delivery of the RFI/RI Report is being evaluated.

The IAG schedule to obtain permits for the field activities for OU 5 and OU 6 was delayed because of FY92 budgetary uncertainties. The Statement of Work (SOW) for the field activities has not been let out for bids because of the disapproval by EPA and CDH of the final Work Plan for OU 5 and OU 6; therefore, field activities will not begin as currently scheduled in the IAG. At this time, it appears that the IAG milestone schedule will not be effected.

2.3 NEAR-TERM IAG MILESTONES

OU#	Milestone Description	Scheduled Completion	Actual Completion
03	Submit Final Phase I RFI/RI Work Plan	06 Dec 91*	06 Dec 91
11	Submit Final Phase I RFI/RI Work Plan	02 Jan 92	02 Jan 92
SW	Submit Draft Historical Release Report	08 Jan 92	08 Jan 92
SW	Submit Responsiveness Summary DLRP	31 Jan 92	31 Jan 92
01	Complete IM/IRA Construction	02 Mar 92	
16	Submit draft no further action Justification	04 Mar 92	

* indicates an approved revised date

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3.0 PROJECT STATUS

3.1 OU 1 - 881 HILLSIDE AREA

DESCRIPTION:

The soil and groundwater at the 881 Hillside Area, located north of Woman Creek in the southeast section of RFP, were contaminated in the 1960s and 1970s with solvents and radionuclides. The area is almost two miles from the eastern, outer edge of the plant's buffer zone at Indiana Street. The various Individual Hazardous Substance Sites (IHSSs) that make up OU 1 are being investigated and treated as high-priority sites because of elevated concentrations of organic compounds in the near-surface groundwater and the proximity of the contamination to a drainage system leading to an offsite drinking water supply. The selected Interim Remedial Action (IRA) at OU 1 involves construction of an underground drainage system called a french drain that will intercept and contain contaminated groundwater flowing from the OU 1 area. The contaminated water will be treated at the 891 Treatment Facility, designed for this purpose, and released on site into the South Interceptor Ditch alongside Woman Creek. IRA construction is scheduled to be complete by March 2, 1992. The remedial investigation and feasibility study (RI/FS) to determine the final remedial action is continuing in parallel with the IRA.

3.1.1 OU 1 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase III RFI/RI Work Plan	06 Feb 90
Submit Final Phase III RFI/RI Work Plan	31 Oct 90
Begin Phase III RI Field Work	06 Mar 91

JANUARY WORK ACTIVITY STATUS:

Drilling and sampling activities have been completed on the OU 1 RI. The tracer test, which determines ground water flow velocities, was completed at 1:30 a.m. on January 28, 1992. The original tracer test was shut down due to high winds on January 24, 1992. Demobilization from the field was completed on January 31, 1992.

The data evaluation required to generate the RI report is underway as the field activities are completed.

Classification of waste drums for different types of contaminants will begin next week. As data becomes available, field drums will be disposed of properly.

PLANNED WORK FOR FEBRUARY:

Data evaluation required to generate the RI report is scheduled to continue through June, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.1.2 OU 1 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	18 Sep 89
Submit Proposed IM/IRA Decision Document	06 Oct 89
Submit Final IM/IRA Decision Document	05 Jan 90
Begin Phase I-A IM/IRA Construction	15 Jan 90
Restart Phase I-A IM/IRA Construction (after shutdown)	20 Jun 90
Begin Phase I-B IM/IRA Construction (ahead of schedule)	28 Sep 90
Submit IM/IRA Implementation Document	22 Feb 91
Begin Phase II-A IM/IRA Construction	01 Apr 91
Begin IM/IRA Testing	05 Aug 91
Begin Phase II-B IM/IRA Construction	03 Sep 91

JANUARY WORK ACTIVITY STATUS:

Installation of the ion exchange unit is in process. Pipe heat tracing and insulation is approximately 95 percent complete. Installation of electrical wiring between the ion exchange unit and the electrical panels within the 891 treatment building began. Work on the lightning protection system for Building 891 and the effluent tanks is approximately 90% complete. The west door apron on Building 891 was formed and poured on January 11, 1992.

Tank welding is complete on all tanks, and preparation of the tanks for external painting has started. Approval of the respiratory protection program for inside work is complete. The blasting materials used in the painting process have been approved before the preparation work can be finished, and APEN approval from CDH was received on January 29, 1992. Filling of the tanks for hydrotesting has been postponed until painting is complete.

Excavation and grouting of approximately 1100 feet of the french drain is complete, and 1000 feet of backfill is complete. Progress has been slowed due to the removal of multiple slip planes between Stations 11+00 and 7+00. A new gate has been cut into the buffer zone fence near the east end of the french drain for better access to the east end of the project.

PLANNED WORK FOR FEBRUARY:

The continued construction of the effluent tanks is planned for February. The construction/excavation activities on the french drain will continue. Influent and effluent pipe trench and pipe installation is scheduled to be completed.

PROBLEMS:

As construction proceeds to the west, soils are more saturated. Construction of the french drain will become more difficult, and slope stability problems may increase.

OPEN ITEMS: None

3.2 OU 2 - 903 PAD, MOUND, AND EAST TRENCHES

DESCRIPTION:

The contamination at the 903 Pad and Mound areas is largely attributed to the storage in the 1950s and 1960s of waste drums that corroded over time, allowing hazardous and radioactive material to leak into the surrounding soil. Additional contamination may have resulted from wind dispersion during drum removal and soil movement activities. The East Trenches Area was used for disposal of plutonium- and uranium-contaminated waste and sanitary sewage sludge from 1954 to 1968. Two areas adjacent to the trenches were used for spray irrigation of sewage treatment plant effluent, some of which may have contaminants that were not removed by the treatment system.

An Interim Measures/Interim Remedial Action (IM/IRA) provides for surface water seeps in source areas of contamination to be collected, treated, and discharged to the surface water system. Operation of a field-scale treatability unit began for the Walnut Creek drainage in May 1991. The effectiveness of the treatment process will be evaluated at three locations: the entrance to the treatment facility, several points within the facility, and the discharge point. After completion of the field-scale treatability tests, the unit is anticipated to remain in service until the final remedial action is operational. A second IRA, Woman Creek Subsurface Investigation will investigate treatment technologies for contaminated groundwater. The RI and FS to determine the final remedial action are continuing in parallel with the IRA.

3.2.1 OU 2 ASSESSMENT

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase II RFI/RI Work Plan (Alluvial)	21 Dec 89
Submit Final Phase II RFI/RI Work Plan (Alluvial)	12 Apr 90
Submit Draft Phase II RFI/RI Work Plan (Bedrock)	05 Feb 91
Submit Final Phase II RFI/RI Work Plan (Bedrock)	02 Jul 91
Begin Phase II-B RFI/RI Field Work	03 Sep 91

JANUARY WORK ACTIVITY STATUS:

Drilling operations continued during January with nine additional monitoring wells being completed, bringing the total number of monitoring wells to 55. Seven boreholes were also completed in January making 16 total as of January 31, 1992. Linear drilling footage completed as of January 31, 1992 is 2616 feet. Pressure transducers were installed in various monitoring wells in OU 2 this month. This work is in preparation of the multi-aquifer pump test scheduled for March, 1992. Drilling operations started in the Americium Zone on January 7, 1992. Drilling started in the southeast trenches area and will proceed to the west toward the 903 pad.

PLANNED WORK FOR FEBRUARY:

Drilling and sampling activities will continue on the OU 2 RI. Drilling operations are scheduled on the 903 pad by the end of February, 1992. The field work is scheduled to continue until May 1, 1992.

PROBLEMS:

Fiscal Year 1992 (FY92) budgets have been insufficient to fund the bedrock assessment program; therefore, no drilling or field activities will occur in the bedrock program. The bedrock program will be re-evaluated for FY93. Moreover, due to the postponement of the Bedrock program, field support for the soil sampling field activities must be funded independently of drilling activities. Modifications to the Alluvial program contract is being made to cover the soil sampling activities.

OPEN ITEMS: None

3.2.2 OU 2 REMEDIATION

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Proposed IM/IRA Decision Document	19 Jun 90
Submit Proposed Plan IM/IRA Decision Document	18 Sep 90
Submit Draft Responsiveness Summary	13 Dec 90
Submit Final Responsiveness Summary and Final IM/IRA Decision Document	11 Jan 91
Field Treatability Test System Installation Complete	10 May 91
Begin Field Treatability Testing (Carbon System)	13 May 91
Complete IM/IRA Construction	*
Begin Field Treatability Testing (Entire System)	*

* Scheduled completion date September 30, 1991 for the construction milestone and October 30, 1991 for the testing milestone were not met. With the conclusion of dispute resolution proceedings, EPA and CDH authorized the extension of the construction milestone to April 24, 1992 and the initiation of operations to April 27, 1992.

JANUARY WORK ACTIVITY STATUS:

The South Walnut Creek Granular Activated Carbon (GAC) treatment system collected, treated, and discharged 195,115 gallons of surface water during January 1992. The system continues 24-hour manned operation.

Reconfiguration of the lead/polish GAC vessels was successfully completed on January 17, 1992. The spent GAC vessel was sampled on January 20, 1992 and sent to offsite laboratories for lab analysis for Toxic Characteristic Leaching Properties (TCLPs).

Progress toward completion of installation of the radionuclide removal system is ongoing. The design has been completed and fabrication of the unit has been initiated to facilitate an expedited start up planned to occur by the end of April, 1992.

A schedule was prepared in late 1991 for the Woman Creek OU 2 Subsurface Investigation IM/IRA that included eight weeks of DOE/HQ document review and approval time. After presenting the schedule to the regulatory agencies, EPA Region VIII rejected the eight week approval period as being excessive. As a result, a dispute resolution has been invoked by DOE and has been elevated to the second level of negotiation.

The revised Draft Proposed Subsurface IM/IRA/EA and Decision Document was transmitted to DOE/HQ on January 31, 1992 for approval prior to EPA and CDH submittal scheduled for March 2, 1992.

PLANNED WORK FOR FEBRUARY:

During February the GAC treatment unit will continue operations

Shipment of the microfilter units is expected before the end of February. Fabrication of the trailer units to house the radionuclide removal system by the subcontractor offsite is ongoing and development of the project operational support will continue to advance.

Construction of the radionuclide removal system will continue.

PROBLEMS:

A schedule was prepared in late 1991 for the OU 2 Subsurface Investigation IM/IRA that included eight weeks of DOE/HQ document review and approval time. After presenting the schedule to the regulatory agencies, EPA Region VIII rejected the eight week approval period as being excessive. As a result, a dispute resolution has been invoked by DOE and has been elevated to the second level negotiation.

OPEN ITEMS: None

3.3 OU 3 - OFFSITE AREAS

DESCRIPTION:

OU 3 can be divided into two categories based on the two drivers of the activities. The IAG directs activities according to CERCLA. This involves assessment of contamination in offsite areas also referred to as Individual Hazardous Substance Sites (IHSSs): Contamination of the Land Surface (IHSS 199), Great Western Reservoir (IHSS 200), Standley Lake (IHSS 201), and Mower Reservoir (IHSS 202). The second category responds to a 1985 out-of-court lawsuit settlement, McKay v. U.S., which directed that the surface soil contamination be remediated. Remedial activities in compliance with the Settlement Agreement (deep disc plowing) began in 1985. The disturbance resulting from remediation is being revegetated with mediocre success. The overall schedule for this activity is determined by the year-to-year success of the revegetation effort and requirements of the land owners.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Past Remedy Report	26 Oct 90
Submit Draft Historical Information/Preliminary Health Risk Assessment Report	09 Nov 90
Submit Final Past Remedy Report	02 Apr 91
Submit Final Historical Information/Preliminary Health Risk Assessment Report	16 Apr 91
Submit Draft Phase I RFI/RI Work Plan	10 Jul 91
Submit Final Phase I RFI/RI Work Plan	06 Dec 91

JANUARY WORK ACTIVITY STATUS:

Conditional approval was received from EPA on the Final Phase I OU 3 RFI/RI Work Plan. Comments from EPA and CDH on the Final OU 3 RI Work Plan are being addressed for re-submittal by February 28, 1992. DOE and EG&G personnel met with EPA and CDH on January 24, 1992 to discuss responses to the comments.

Activities are continuing in preparation for implementation of the OU 3 Work Plan during 1992. Access issues are currently being addressed with city, county, and private land owners. Presentations were made to the Standley Lake Operating Committee in the beginning of January, 1992. The Standley Lake Operating Committee is made up of local city water resources representatives and the Farmers Reservoir and Irrigation Company, the owner of the reservoir. The presentations were well received by the committee; approval by the committee is necessary for planned RI field work at Standley Lake. Efforts are being made to make the RI field activities as positive and educational to the public as possible.

PLANNED WORK FOR FEBRUARY:

Revision of the OU 3 Final Phase I RFI/RI Work Plan will continue. Activities are continuing in preparation for implementation of the OU 3 Work Plan during 1992. Access issues are currently being addressed with city, county, and private land owners.

PROBLEMS:

Remedial actions required under the 1985 McKay vs. U.S. Settlement Agreement may be in conflict with CERCLA. Tilling of the land surface to mix plutonium contaminated surface soil, as required under the Settlement Agreement, prior to completion of the RI/FS will probably not be allowed by EPA. The remedial action as determined by the RI/FS process, if any, will probably not include plutonium soil mixing through tilling.

OPEN ITEMS: None

3.4 OU 4 - SOLAR EVAPORATION PONDS

DESCRIPTION:

OU 4 is made-up of five solar evaporation ponds: 207A, 207B series (north, center, south), and 207C. Beginning in the late 1950s, the ponds were used to store and evaporate low-level radioactive process water containing high concentrations of nitrates and treated acidic wastes. The sludge and sediments that resulted from the process were periodically removed, solidified and transported to and disposed at the Nevada Test Site for low level disposal.

As technology improved through the early 1960s and 1970s, the ponds were relined with various upgraded materials. However, leakage from the ponds into the soil and ground water was detected. Interceptor trenches were installed in 1971 to collect and recycle ground water contaminated by the ponds and to prevent natural seepage and pond leakage from entering North Walnut Creek. In 1981, these trenches were replaced by the current, larger, interceptor trench system, which recycles approximately four million gallons of ground water a year back into the solar evaporation ponds.

No additional process water has been pumped into the ponds since 1983. The interceptor trench system collects and recycles ground water into the solar evaporation ponds continuously. Presently, only the 207B north solar evaporation pond receives contaminated ground water collected by the interceptor system. The ponds are RCRA interim status regulated units that are currently under closure. In order to proceed and characterize the level of contamination at the site, approximately eight million gallons of excess liquid in the ponds must be removed. The removal of this liquid and the redirection and treatment of the ground water collected by the interceptor trench system are the focus of the Interim Remedial Action which is scheduled to begin field activities in 1992.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase RFI/RI Work Plan	26 Nov 91

JANUARY WORK ACTIVITY STATUS:

Revision of the Phase I RFI/RI Work Plan incorporating comments from CDH and EPA was completed and began internal review on January 31, 1992.

The first draft of the Responsiveness Summary for the proposed IM/IRA Decision Document was completed on January 20, 1992. Internal comments were addressed and a revised version of the Responsiveness Summary and the changes to the IM/IRA are scheduled to be reviewed in the first week of February 1992.

The final version of the contract with Halliburton-NUS was forwarded January 23, 1992. Halliburton-NUS legal review of the final document is complete and signature is expected mid-February.

Characterization of the pondsludge was completed December 16, 1991. The initial phase of the Treatability Study for pondsludge is in progress.

PLANNED WORK FOR FEBRUARY:

The Treatability Study for pondsludge is scheduled to continue throughout February. Characterization for pondcrete and saltcrete is also planned for February.

Submittal of the Final Phase I RFI/RI Work Plan for OU 4 is scheduled for the first week of February, which will incorporate comments from EPA and CDH.

Obtain EPA and CDH approval of the Final Phase I RFI/RI Work Plan.

Obtain permits and mobilize for Phase I RFI/RI field work.

During the second week of February, 1992 submittal of the Final IM/IRA and Responsiveness Summary is scheduled for delivery to EPA and CDH.

PROBLEMS:

The delay in removal of sludge from the solar ponds and the requirement for an IM/IRA for the surge tanks has impacted the IAG scheduled start of the RFI/RI field activities in January 1992. At this time the impact, if any, on the IAG milestone for delivery of the RFI/RI Report is being evaluated.

OPEN ITEMS: None

3.5 OU 5 - WOMAN CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Woman Creek drainage of ten Individual Hazardous Substance Sites (IHSS). They are the Original Landfill (IHSS 115), the Ash Pits (IHSS 133.1 - 133.4), the Incinerator (IHSS 133.5), the Concrete Wash Pad (IHSS 133.6), the Detention Ponds C-1 and C-2 (IHSS 142.10 and 142.11) and the Surface Disturbance (IHSS 209), southeast of Building 881. Two additional surface disturbances have been identified and are located, one south of the Ash Pits and a second west of IHSS 209. These last two sites have been included in the OU 5 Work Plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	05 Apr 91
Submit Final Phase I RFI/RI Work Plan	30 Aug 91

JANUARY WORK ACTIVITY STATUS:

In accordance with the meeting held on January 3, 1992 regarding the South Interceptor Ditch (SID) Maintenance Project attended by DOE, EG&G, EPA, and CDH, the collection of surface water and sediment samples from the SID has been rescheduled. A letter was sent to EPA and CDH on January 24, 1992 from DOE. The letter outlined responses to coordination of OU 5 RFI/RI, data assessment, schedules, Environmental Evaluation Work Plans (EEWP), Human Health Risk Assessments, update on the proposed Burn Permit and proposed sediment removal. A follow-up meeting date has not yet been scheduled.

PLANNED WORK FOR FEBRUARY:

A statement of work is being developed to implement the EEWP, Human Health Risk Assessment, Ambient Air Monitoring and the field sampling plan of the final Phase I RFI/RI Work Plan.

PROBLEMS:

The Statement of Work (SOW) for the field activities has not been released for bids because of the disapproval by EPA and CDH of the Work Plan for OU 5; therefore, field activities will not begin as currently scheduled. At this time, it appears that the IAG milestone schedule will not be effected.

OPEN ITEMS: None

3.6 OU 6 - WALNUT CREEK

DESCRIPTION:

This activity encompasses assessment and remediation in the Walnut Creek Drainage of twenty-two Individual Hazardous Substance Sites (IHSSs). They are the A-series Detention Ponds, Ponds A-1 through A-4 (IHSS 142.1 through 142.4) and 142.12; the B-series Detention Ponds, Ponds B-1 through B-5 (IHSS 142.5 through 142.9); the North, Pond, and South Area Spray Fields (IHSS 167.1, 167.2 and 167.3); the East Area Spray Field (IHSS 216.1), the Trenches A, B and C (IHSS 166.1, 166.2 and 166.3); the Sludge Dispersal Area (IHSS 141); the Triangle Area (IHSS 165), and the Old Outfall Area (IHSS 143). One additional site, the Soil Dump Area (IHSS 156.2), was moved from OU 14 to OU 6 in 1991. Surface and subsurface soil samples will be taken on a 150-foot grid across IHSS 115 instead of the 50-foot grid around the perimeter as proposed in the IAG. In addition, one monitoring well will be drilled 20 feet into bedrock within the IHSS and will be completed in bedrock if a sandstone zone is encountered. Five bedrock groundwater monitoring wells will be installed in the vicinity of North Walnut Creek during the OU 6 remedial investigation. The purpose of these wells is to characterize the bedrock in the vicinity of the A-series ponds. Two IHSSs, Property Utilization and Disposal Yard (PU&D Yard) (IHSS 170) and Property Utilization and Disposal Container Storage Facilities (IHSS 174) have been moved from OU 6 to OU 10.

Sediment samples will be collected from the drainage in OU 6 to characterize areas where existing data is currently lacking. Proposed sediment sample locations have been located along each stream segment on North and South Walnut Creeks where additional characterization is needed. Based on a review of the data collected at the 17 existing locations along the OU 6 drainage, a significant amount of information exists about the sediments in many parts of OU 6. As a result, the sampling locations specified in the RFI/RI Work Plan have been reduced.

The Field Sampling Plan has been modified for the Triangle Area (IHSS 165) and the Old Outfall Area (IHSS 143) so that the surface soil sampling specified in the IAG can be taken from the original surface of these units. This will entail using borings to drill down to the original land surface and collecting samples at and below this surface.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	19 Apr 91
Submit Final Phase I RFI/RI Work Plan	16 Sep 91

JANUARY WORK ACTIVITY STATUS:

The revised OU 6 Final Phase I RFI/RI Work Plan is under review by EPA and CDH. The Work Plan was submitted to the regulatory agencies on December 15, 1991. The length of the approval period is undetermined at this time.

PLANNED WORK FOR FEBRUARY:

In anticipation of OU 6 RFI/RI Work Plan approval, the procurement process to select a subcontractor for implementation is underway.

PROBLEMS:

The Statement of Work (SOW) for the field activities has not been released for bid because of the disapproval by EPA and CDH of the Work Plan for OU 6; therefore, field activities will not begin as originally scheduled. At this time, it appears that the IAG milestone schedule will not be effected.

OPEN ITEMS: None

3.7 OU 7 - PRESENT LANDFILL

DESCRIPTION:

The Present Landfill Operable Unit (OU) 7 is located north of the plant complex on the western edge of an unnamed tributary of North Walnut Creek and is comprised of two Individual Hazardous Substance Sites (IHSS). IHSS 114 includes landfill waste and leachate at the Present Landfill, soils beneath the landfill potentially contaminated with leachate, and sediments and water in the East Landfill Pond. IHSS 203 contains potentially contaminated soils at the Inactive Hazardous Waste Storage Area. The Present Landfill began operation in August of 1968 and was originally constructed to provide for disposal of RFP's nonradioactive and nonhazardous wastes. In September 1973, tritium was detected in leachate from the landfill. During the mid-1980s, extensive investigations were conducted on the waste being disposed into the landfill, and consequently, hazardous wastes/hazardous constituents were identified. Although currently operating as a nonhazardous sanitary landfill, the facility is considered an inactive hazardous waste disposal unit undergoing RCRA closure.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	28 Aug 91

JANUARY WORK ACTIVITY STATUS:

No funding has been allocated to OU 7 for FY92.

PLANNED WORK FOR FEBRUARY:

No funding has been allocated to OU 7 for FY92.

PROBLEMS: None

OPEN ITEMS: None

3.8 OU 8 - 700 AREA

DESCRIPTION:

The 38 IHSSs which constitute OU 8 encompass separate sites inside and around the production area of the Rocky Flats Plant. Contamination sources within the various IHSSs include above ground and underground tanks, underground pipelines, equipment washing areas, and releases inside buildings which potentially affected areas outside the buildings. Contaminants from these sources may have been introduced into the environment through spills on the ground surface, underground leakage and infiltration, and in some cases through precipitation runoff. The chemical composition of the contaminants also varies widely between the IHSSs, ranging from low-level radioactive mixed wastes to nonradioactive organic and inorganic compounds.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS: None

JANUARY WORK ACTIVITY STATUS:

Preparation of the draft OU 8 RFI/RI Work Plan has begun. The draft OU 8 RFI/RI Work Plan is scheduled to be delivered to the regulatory agencies in May, 1992.

PLANNED WORK FOR FEBRUARY:

Scoping activities with the regulatory agencies continues throughout February.

PROBLEMS: None

OPEN ITEMS: None

3.9 OU 9 - ORIGINAL PROCESS WASTE LINES

DESCRIPTION:

This activity involves characterizing a series of tanks and associated process waste lines. The Original Process Waste Lines (OPWL) consisted of a system of 57 designated pipe sections extending between 73 tanks and 24 buildings connected by 35,000 feet of buried pipeline that transferred process wastes from point of origin to on-site treatment plants. The system was placed into operation in 1952 and additions were made to the system through 1975. The original system was replaced over the 1975-1983 period by the new process waste system. Some tanks and lines from the original system have been incorporated into either the new process waste system or the fire water deluge collection system.

The original system is known to have transported or stored various aqueous process wastes containing low-level radioactive materials, nitrates, caustics and acids. Small quantities of other liquids were also introduced in the system, including pickling liquor from foundry operations, medical decontamination fluids, miscellaneous laboratory liquids from Building 123, and laundry effluent from Buildings 730 and 778. The RFI/RI plan includes inspection and sampling of the OPWL tanks and pipelines which are accessible, and soil sampling to determine the extent of contamination in the vadose zone. The soil sampling will be performed by test pits and borings at approximately 300 foot intervals along the pipelines and by borings around the tanks which are outdoors. Soil characterization studies will determine the need for soil removal and/or treatment. The results of the RFI/RI will determine the need for interim and/or final remediation action.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	26 Nov 91

JANUARY WORK ACTIVITY STATUS:

Comments on the OU 9 draft final Phase I RFI/RI Work Plan from EPA and CDH were received. CDH has requested the document be revised and submitted to the regulatory agencies by February 10, 1992 or the conditional approval of the work plan would be negated. Because comments were received late and have not yet been resolved, it would not be possible to revise and deliver the document to the regulatory agencies by February 10, 1992. A meeting was conducted on January 24, 1992 among DOE, EPA, CDH, and EG&G regarding regulatory agency comment resolution for the Work Plan. The majority of the comments were resolved and the Work Plan is being revised accordingly. At the meeting it was requested that the Work Plan submittal date be extended to February 28, 1992. This extension was agreed to by EPA and CDH.

A significant issue that was discussed at the meeting was the scope reduction of the Environmental Evaluation Work Plan. The majority of the OPWL system is within the industrial areas of the Rocky Flats Plant. The OU 9 area consists of a large concentration of buildings, security areas and asphalted areas; there is no existing ecology system at this time. Thus, the need to perform an EE is not

relevant relative to preparation of a Phase I RFI/RI Report. The reduction of EE activities will limit the major anticipated cost increases associated with this item at the OPWL.

PLANNED WORK FOR FEBRUARY:

Revision of the Phase I RFI/RI OU 9 Work Plan for submittal to the regulatory agencies on February 28, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.10 OU 10 - OTHER OUTSIDE CLOSURES

DESCRIPTION:

OU 10 is made up of 18 Individual Hazardous Substance Sites (IHSSs) scattered throughout the plant and consists of various hazardous waste units. Six of the IHSSs are located in the Protected Area (PA), two are located in the buffer zone near the present landfill, the remaining are located near various buildings throughout the plant. The types of wastes identified at these sites range from pondcrete/saltcrete storage and drum storage to a property utilization and container storage yard with waste spills. A Draft Phase I RFI/RI Work Plan for OU 10 is currently in preparation. The primary components of the RFI/RI Work Plan for OU 10 will be a Field Sampling Plan (FSP), Baseline Risk Assessment Plan (BRAP), and an EE Work Plan. Interim Remedial Action (IRA) construction is scheduled to begin in early 1998.

Three additional IHSSs were transferred from other operable units to OU 10 after the draft RFI/RI Work Plan was completed in FY90. These include PU&D Yard IHSS 170, IHSS 124 and IHSS 210. The draft Work Plan was based on the draft IAG which was modified during final IAG negotiations. A contract modification has been initiated to incorporate the three IHSSs into the draft Work Plan and to perform general upgrades to the Plan.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit draft Phase I RFI/RI Work Plan	27 Nov 91*

*Actual submittal of Work Plan to the regulatory agencies was November 26, 1991, one day ahead of the IAG milestone date.

JANUARY WORK ACTIVITY STATUS:

The draft Phase I RFI/RI Work Plan for OU 10 - Other Outside Closures was in review by EPA and CDH during January.

PLANNED WORK FOR FEBRUARY:

According to the IAG schedule, the regulatory agencies have 62 working days to review the Work Plan. Conditional approval is expected on the OU 10 Other Outside Closures draft Phase I RFI/RI Work Plan by March 4, 1992.

PROBLEMS: None

OPEN ITEMS: None

3.11 OU 11 - WEST SPRAY FIELD

DESCRIPTION:

The West Spray Field is located within the buffer zone of the Rocky Flats property boundary, immediately west of the plant security area. The West Spray Field was in operation from April 1982 to October 1985. During operation, excess liquids from the solar evaporation ponds 207-B North and Center (contaminated groundwater in the vicinity of the ponds and treated sanitary sewage effluent) were pumped periodically to the West Spray Field for spray application. The spray field boundary covers an area of approximately 105.1 acres, 38.3 of which received direct application of hazardous waste. The RFI/RI process will entail field studies to determine the presence and levels of hazardous constituents in soil and groundwater.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Phase I RFI/RI Work Plan	08 Jun 90
Submit Final Phase I RFI/RI Work Plan	02 Jan 92

JANUARY WORK ACTIVITY STATUS:

The Final Phase I RFI/RI Work Plan for OU 11 was submitted to the regulatory agencies on January 2, 1992. Comments on the Work Plan were received from EPA and CDH on January 31, 1992.

PLANNED WORK FOR FEBRUARY:

Revision to the OU 11 Phase I RFI/RI Work Plan will continue through February, 1992. Resubmittal of the revised Final OU 11 Phase I RFI/RI Work Plan is scheduled for March 16, 1992.

PROBLEMS:

Western Aggregate has submitted a request to DOE to mine the mineral resources for which they own the rights and which are under a portion of the western edge of the Rocky Flats Plant. The land in question is located within Operable Unit 11 West Spray Field. DOE has had preliminary discussions with EPA on this matter, and EPA agrees with DOE that a decision for any mining operations should be delayed until the OU assessment is complete. DOE legal staff is reviewing the request from Western Aggregate. A meeting between the parties was held in September. The DOE Realty Officer is negotiating a mineral rights exchange which is tentatively scheduled to be completed by June 1992.

OPEN ITEMS: None

3.11 SITEWIDE ACTIVITIES

DESCRIPTION:

Sitewide activities include several tasks that encompass a wide variety of plans, procedures, reports, studies, and other activities required by the IAG and that apply to RFP environmental restoration activities in general. The activities include, but are not limited to, the Health and Safety Plan, a Sampling and Analysis Plan, a Plan for Prevention of Contaminant Dispersion, the Community Relations Plan, the Discharge Limits for Radionuclides Work Plan, Treatability Study deliverables, the Background Study Plan, Administrative Record, State Response (support for CDH oversight), Historical Release Report, Operations Management, Decontamination Facilities, Contractor yard support, ER Waste handling facilities, geologic characterization, hydrogeologic characterization, and ground water monitoring.

SCOPE OF WORK CHANGES THIS REPORTING PERIOD: None

TECHNICAL APPROACH CHANGES THIS REPORTING PERIOD: None

MILESTONE ACCOMPLISHMENTS:

Submit Draft Background Study Report (Water)	15 Dec 89
Submit Draft Background Study Report (Soils)	15 Dec 89
Submit Draft Community Survey Plan	23 Jan 90
Submit Final Community Survey Plan	22 Mar 90
Submit Draft Health and Safety Plan	15 Aug 90
Submit Draft Quality Assurance Project Plan	29 Aug 90
Submit Draft Standard Operating Procedures	29 Aug 90
Submit Draft Plan for Prevention of Contaminant Dispersion	19 Sep 90
Submit Draft Treatability Study Plan	21 Sep 90
Submit Draft Community Relations Plan	01 Nov 90
Submit Final Health and Safety Plan	12 Nov 90
Submit Revised Background Study Report	21 Dec 90
Submit Final Community Relations Plan	22 Jan 91
Submit Final Quality Assurance Project Plan	01 Mar 91
Submit Final Standard Operating Procedures	01 Mar 91
Submit Draft Radionuclides Discharge Limits Plan	05 Apr 91
Submit Community Relations Plan Responsiveness Summary	21 Jun 91
Submit Final Treatability Study Plan	03 Jun 91
Submit Final Plan for Prevention of Contaminant Dispersion	22 Jul 91
Submit Final Plan Discharge Limits Radionuclides (DLRP)	16 Sep 91
Submit Final PPCD and Responsiveness Summary	25 Nov 91
Submit Historical Release Report	08 Jan 92
Submit Responsiveness Summary for DLRP	31 Jan 92

JANUARY WORK ACTIVITY STATUS:

Plan for Prevention of Contaminant Dispersion (PPCD)

Modifications to the Responsiveness Summary (RS) for the PPCD are in progress. A revised submittal date of February 21, 1992 was agreed to by CDH for the Final PPCD and RS.

Discharge Limits for Radionuclides (DLRP)

Public comments have been addressed in the Response to Comments document and the appropriate changes to the Discharge Limits for Radionuclides Work Plan were made. Submittal of the Responsiveness Summary and the Final Work Plan documents occurred on January 31, 1992, the IAG milestone date.

Environmental Evaluations (EE)

Plans were developed for preparing a "straw man" to present the elimination or reduction in scope of EEs from OUs that are completely, or mostly in the production area of the plant to the regulators at the next Risk Assessment Technical Working Group meeting. The elimination or scope reduction of EEs from areas that are mostly paved or under buildings will result in considerable cost savings without affecting our understanding of the ecological risks. The ecosystem strategy established last year will allow the production area to be simply considered as a source term for contaminants to be considered when EEs in the buffer zone are implemented.

A planned bird transect for OUs 1 and 2 was postponed because a recent DOE order restricts the use of binoculars at the plant site. Binoculars and telescopes are essential tools for bird transects and relative abundance surveys and other ecological work required for compliance with the CERCLA/RCRA-IAG and other laws and regulations. This transect and relative abundance survey must be completed by late February to include the data in the OU 1 report due this summer.

A meeting was held on January 29, 1992 to develop plans for a program for a surface soil background study to provide information for IAG reports, geochemical characterization, and other environmental programs currently underway at RFP.

Historical Release Report

The draft Historical Release Report (HRR) was submitted to EPA and CDH on January 8, 1992, the IAG milestone date. The HRR provides a complete listing of all spills, releases and incidents involving hazardous substances occurring since the inception of the Rocky Flats Plant in 1951. The listing is accompanied by complete documentation of the events including the description of the events, complete physical and chemical description of the constituents released, responses to the events and the fate of the constituents released into the environment.

National Resource Trustees

A meeting with the Natural Resource Damage Assessment Trustees was held on January 13, 1992. This meeting provided a forum for discussing issues pertinent to the responsibilities of each of the

trustees. Also discussed were the data currently being collected and other data that may be useful in evaluating potential natural resources injuries.

RFO and EG&G staff attended the ER Program Priority System Guidance and Workshop meeting held on January 16-17, 1992, in Washington, D.C. The objectives of the meeting were to provide an overview of the system for new users, to present scoring instructions, and to provide guidance for the FY94 input for the system. The intent is to use the system as one of the tools used to generate the FY94 target funding level for the FY94-FY98 ADSs. On January 22, 1992, a presentation on the Priority System was made to the Rocky Flats Technical Review Group (TRG). Rocky Flats' draft FY94 scores will be reviewed with interested members of the TRG to solicit their comments prior to submittal of the FY94 scores.

PLANNED WORK FOR FEBRUARY:

EPA and CDH will continue the review of the HRR through April 3, 1992.

Work continues on modifications to the PPCD and RS to meet the revised submittal date of February 21, 1992.

PROBLEMS: None

OPEN ITEMS: None

4.0 ROUTINE ENVIRONMENTAL MONITORING

The following generalized sampling schedule for Routine Environmental Monitoring is provided as requested in Section 210 of the IAG. Detailed quarterly monitoring schedules are prepared in advance and are available to EPA and CDH upon request from the Environmental Monitoring and Assessment Division, Environmental Management Department, and EG&G Rocky Flats, Inc. The schedules are lengthy; therefore, they are not reproduced here. An EPA- or State-authorized representative may make arrangements to observe fieldwork and to obtain split or duplicate samples.

SURFACE WATER AND SEDIMENTS:

Each of the Surface Water Stations (approximately 120 stations) are sampled monthly.

Each of the Sediment Stations (approximately 40 stations) are sampled quarterly.

Each surface water and sediment sample is analyzed for the following parameters:

CLP TCL VOAs
CLP TAL Metals
plus Cesium
Lithium
Molybdenum
Strontium
Tin

Major Anions
Radionuclides
Field Parameters
pH
Temperature
Specific Conductivity
Dissolved Oxygen (DO)
Turbidity

SOILS:

Each of the Soil Stations (located at a 1- and 2-mile radius from the plant center) are sampled annually.

Each soil sample is analyzed for plutonium and americium.

GROUNDWATER:

A total of 259 of the 371 Groundwater Stations are sampled quarterly; this includes alluvial wells, bedrock wells, and pre-1986 wells. Approximately one third of the wells are monitored monthly for water levels.

Each groundwater sample is analyzed for CLP TCL VOAs, CLP TAL Metals, as well as the following parameters:

Radiochemical Parameters		Inorganic Parameters	Field Parameters
Gross Alpha	Tritium	Nitrate/Nitrite	Dissolved Oxygen (DO)
Gross Beta	Lithium	Total Phosphorous	Specific Conductivity
Plutonium	Uranium	Ortho-Phosphate	Temperature
Americium	Cesium	Ammonia	Turbidity
Strontium	Tin		pH
Molybdenum			

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5.0 CONTRACTOR/SUBCONTRACTOR IDENTIFICATION

Contractors and subcontractors being used on the Rocky Flats Plant Environmental Restoration Program and the work they are performing are identified on the following list as required by paragraph 13 of the IAG.

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
1	Assessment	Ebasco	Dames & Moore Stoller Corp.	OU1 RFI/RI fieldwork (drilling, well development/ completion, sampling) and RI report	Apr-91
1	Remediation	Advance Tanks		Fabricate/install effluent storage tanks for OU1 IRA	Oct-91
1	Remediation	Bruner		OU1 IRA ion exchange system	Feb-91
1	Remediation	E.T. LaFore		Installation of Phase II-A treatment system equipment for OU1 IRA	Jun-91
1	Remediation	Eng Sciences		Design Phase II-B French drain for OU1 881 Hillside IRA	Sep-90
1	Remediation	Jennison		Construct Phase II-B French drain at OU1 IRA	Aug-91
1	Remediation	P.S.I.		UV bench scale testing for volatile organics	Aug-91
2	Assessment	Woodward-Clyde		OU2 RFI/RI Work Plan (alluvial & bedrock) and RI fieldwork (drilling, well completion/development)	Sep-90
2	Assessment	Weston		OU2 RFI/RI Alluvial Work Plan	Nov-90
2	Remediation	Riedel Env. Svcs.		Fabricate/install/operate GAC/FTU system for South Walnut Creek Phase of OU2 IRA.	Apr-91
2	Remediation	Stearns Rogers		Performance Specification for chemical precipitation/ membrane/filtration system for South Walnut Creek Phase of OU2 IRA	Jun-91
2	Remediation	Weston		IRAP, EA, Risk Assessment, and Historical Assessment for Women Creek	Jun-91
2	Remediation	Woodward-Clyde		Conduct bench-scale tests on surface water	May-91
2	Remediation	TBD		Mfg./Install chem. precep/filitration unit for South Walnut Creek phase of OU 2 IRA	Dec-91
3	Assessment	IT Corporation	CH2M Hill	OU3 RI Work Plan	Mar-91
3	Assessment	IT Corporation	CH2M Hill	Revegetate offsite lands	Jun-91
4	Assessment	IT Corporation	Applied Environ.	OU4 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Sep-91
4	Remediation	IT Corporation		Prepare OU4 IM/IRA Action Plan	Jul-90
5	Assessment	Woodward-Clyde		OU5 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90
6	Assessment	Woodward-Clyde		OU6 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Feb-90

OU	PROJECT	SUBCONTRACTOR	SUB-SUBCONTRACTOR	WORK DESCRIPTION	START DATE
7	Assessment	IT Corporation	Stoller Corp.	OU7 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Apr-90
9	Assessment	IT Corporation		OU9 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	Mar-90
10	Assessment	Ebasco		OU10 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
11	Assessment	IT Corporation		OU11 RFI/RI Work Plan including Environmental Evaluation Plan and Quality Assurance Addendum	TBD
SW	Hist. Rel. Rep.	IT Corporation	Doty & Assoc.	Prepare Historical Release Report	Feb-91
SW	PCB Assess.	Ebasco	Stoller Corp.	Prepare PCB Assessment Report	Jan-92
SW	Adm. Record	QuantaLex		Maintain IAG Administrative Record	Oct-90
SW	Geolog. Char.	ASI		Geologic Characterization, Data Base, and graphics	Feb-90
SW	Monitoring	Ebasco		Analytical Services for groundwater, surface water, and sediment	Dec-90
SW	Monitoring	IT Corporation		Analytical Services for groundwater, surface water, and sediment	Jul-90
SW	Fld. Oversight	Ebasco	Stoller Corp.	ER field operations oversight	Oct-90
SW	Treatability	Ebasco		Sitewide treatability studies - Pu contaminated soils	Apr-90
SW	Treatability	Woodward-Clyde		Technical evaluation of sitewide treatability studies	Jul-90
SW	PPCD	Ebasco		Plan for Prevention of Contaminant Dispersion	Jun-90
SW	QA	Ebasco	SAIC	Develop and implement quality assurance program and field operations oversite	Dec-90
PM	Support	Ebasco	Stoller Corp.	Program Management Support	Feb-90